

detecting the first mark signal by scanning the mark with the energy beam, the mark being set on an optical axis of the optical system; and

detecting the second mark signal by scanning the mark with the energy beam, the mark being located at a position that is deviated from the optical axis of the optical system; and

determining the variation includes determining a deviation of a deflection position based on a phase deviation between the first and second mark signals.

24. (New) A method for adjusting an optical system of an energy beam apparatus according to claim 2, further comprising obtaining the reference signal by scanning the mark with the energy beam being modulated.

25. (New) A method for adjusting an optical system of an energy beam apparatus according to claim 7, further comprising obtaining the reference signal by scanning the mark with the energy beam being modulated.

26. (New) A method for adjusting an optical system of an energy beam apparatus according to claim 3, wherein:

the mark has a two-dimensional periodic structure; and

the determined variation is a deviation in a rotation direction.

27. (New) A method for adjusting an optical system of an energy beam apparatus according to claim 1, wherein the energy beam is an electron beam.

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28. (New) A method for adjusting an optical system of an energy beam apparatus according to claim 1, wherein the energy beam is an ion beam.

29. (New) A method for adjusting an optical system of an energy beam apparatus according to claim 1, wherein the energy beam is a neutron beam.

30. (New) A method for adjusting an optical system of an energy beam apparatus according to claim 1, wherein the energy beam is a photon beam.

REMARKS

Applicants have canceled claims 11-20, 22, and 23, amended claim 6, and added new claims 24-30 so that claims 1-10, 21, and 24-30 are pending for examination. Applicants respectfully request favorable consideration of the pending claims.

If there is any fee due in connection with the filing of this Preliminary Amendment, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

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